WHAT IS CLAIMED IS:

1. A device configured to receive data transmitted over a network medium, comprising:

a memory configured to store first phase information associated with a first pilot tone; and

logic configured to:

identify a second pilot tone received with a plurality of tones,

determine second phase information associated with the second pilot tone,

determine a difference between the second phase information and the first phase information,

use the difference to determine offset information,

modify phase information associated with each of the plurality of tones based on the offset information, and

decode data transmitted on each of the plurality of tones using the modified phase information.

2. The device of claim 1, wherein when using the difference to determine offset information, the logic is configured to

divide the difference by a value associated with the first pilot tone to obtain a first value, and

multiply the first value by values associated with each of the respective plurality of tones to determine a phase correction for each of the respective plurality of tones.

3. The device of claim 2, wherein when dividing the difference by a value, the logic is configured to:

divide the difference by a frequency of the first pilot tone.

4. The device of claim 3, wherein when multiplying the first value by values associated with each of the respective plurality of tones, the logic is configured to:

multiply the first value by a frequency of each of the respective plurality of tones.

5. The device of claim 2, wherein when dividing the difference by a value, the logic is configured to:

divide the difference by a tone number of the first pilot tone.

6. The device of claim 5, wherein when multiplying the first value by values associated with each of the respective plurality of tones, the logic is configured to:

multiply the first value by a tone number of each of the respective plurality of tones.

7. The device of claim 1, wherein the first pilot tone is transmitted with a group of tones and the logic is further configured to:

identify the first pilot tone, and

determine the first phase information associated with the first pilot tone.

8. The device of claim 1, wherein when using the difference to determine offset information, the logic is configured to:

multiply the difference for each of the plurality of tones by a ratio of the frequency of each of the respective plurality of tones to the frequency of the first pilot tone.

9. In a network device that receives data transmitted using discrete multitone (DMT) modulation, a method comprising:

storing phase information associated with a first pilot tone;

receiving a plurality of symbols;

identifying a second pilot tone in at least one of the plurality of symbols;

determining second phase information associated with the second pilot tone;

obtaining a difference between the first phase information and the second phase information;

dividing the difference by a value associated with the first pilot tone to obtain a first value;

multiplying the first value by values associated with each of the respective plurality of tones to determine phase correction information for each of the respective tones; and

modifying phase information associated with each of the plurality of tones based on the phase correction information.

10. The method of claim 9, further comprising:

decoding data transmitted on each of the plurality of tones using the modified phase information.

11. The method of claim 9, wherein the obtaining comprises:

subtracting the second phase information from the first phase information.

12. The method of claim 9, wherein the dividing the difference by a value associated with the first pilot tone comprises:

dividing the difference by a frequency of the first pilot tone.

13. The method of claim 12, wherein the multiplying the first value by values associated with each of the respective plurality of tones comprises:

multiplying the first value by a frequency of each of the respective plurality of tones.

14. The method of claim 9, wherein the dividing the difference by a value associated with the first pilot tone comprises:

dividing the difference by a tone number of the first pilot tone, and

wherein the multiplying the first value by values associated with each of the respective plurality of tones comprises:

multiplying the first value by a tone number of each of the respective plurality of tones.

15. The method of claim 9, further comprising:

receiving a second plurality of tones;

determining second phase correction information associated with the second plurality of tones based on a phase of a pilot tone transmitted with the second plurality of tones;

modifying phase information associated with each of the second plurality of tones based on the second phase correction information; and

decoding data transmitted on the second plurality of tones based on the modified phase information.

16. A device configured to receive data transmitted over a network medium, comprising:

a memory configured to store first phase information associated with a first predetermined tone; and

logic configured to:

identify a second predetermined tone received with a plurality of tones,

determine second phase information associated with the second predetermined tone,

determine a difference between the first phase information and the second phase information,

modify phase information associated with each of the plurality of tones based on the difference, and

decode data transmitted on each of the plurality of tones using the modified phase information.

17. The device of claim 16, wherein the first and second predetermined tones each comprise a pilot tone.

18. The device of claim 17, wherein when modifying phase information associated with each of the plurality of tones, the logic is configured to at least one of:

divide the difference by at least one of a frequency and tone number associated with the pilot tone to obtain a first value and multiply the first value by at least one of a frequency and tone number associated with each of the plurality of tones; and

multiply the difference by a ratio of the frequency of each of the respective plurality of tones to the frequency of the second predetermined tone.

19. The device of claim 16, wherein the logic is further configured to:

receive a plurality of symbols, each symbol comprising a number of tones,

determine a difference between the first phase information and phase information associated with a pilot tone in each of the plurality of symbols, and

modify phase information associated with each of the tones in each of the respective plurality of symbols based on the respective differences.

20. The device of claim 16, wherein the logic is further configured to:

determine a new difference at predetermined time intervals, the new difference corresponding to a difference between phase information associated with a pilot tone and the first phase information, and

modify phase information associated with received tones based on the new difference.

21. A system, comprising:

a first device configured to transmit a first waveform; and

a second device configured to:

receive the first waveform,

identify when an amplitude of the first waveform decays below a threshold,

determine a length of time corresponding to when the amplitude of the first waveform decays below the threshold, and

transmit the determined length of time to the first device, wherein the first device is further configured to:

determine a number of cyclic prefix samples to use when transmitting data to the second device based on the determined length of time.

22. The system of claim 21, wherein when determining the number of cyclic prefix samples to use when transmitting data to the second device, the first device is further configured to:

include a number of prefix samples such that the cyclic prefix time length in a data signal transmitted from the first device is equal to the determined length of time.

23. The system of claim 21, wherein the second device is further configured to include the number of cyclic prefix samples when transmitting data to the first device.